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10/779,892

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EXAMINER

BLANCO, JAVIER G

ART UNIT

PAPER NUMBER

3774

MAIL DATE

DELIVERY MODE

10/31/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/779,892

Applicant(s)

TIPIRNENI, KISHORE

Examiner

Javier G. Blanco

Art Unit

3738

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on August 14, 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 23,24 and 26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 and 25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>3/29/2007; 6/25/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's amendment of claims 1, 3, 5, 6, 9, 1-15, 17, and 22 in the reply filed on August 14, 2007 is acknowledged.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 6 and 17-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
 - a. Regarding claim 6, the limitation "said object surface" (see line 2 and line 4) is indefinite as to the scope of the invention. Claim 1 does not disclose the cap as attached to any object, surface, or portion. This was addressed in the previous office action.
 - b. Regarding claim 17, the limitation "said head component having cutting threads" (see line 6) lacks antecedent basis. Claims 18-21 depend on independent claim 17.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Art Unit: 3738

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 11-13, 17, and 19-21 are rejected under 35 U.S.C. 102(a) as being clearly anticipated by HEHL (WO 00/67652 A2).

Referring to Figures 2-4, 6, 8, and 9, Hehl discloses a system including:

(i) A head component 8 including a tip, cutting threads (see Figures 3 and 4), and fastening threads (as part of the cutting threads);

(ii) A flexible wire 9 having a first end and a second end, and a first interface including a sawtooth configuration (shown in Figures 4, 6, and 9); and

(iii) A cap 5, said cap having a second interface including an inverse sawtooth configuration (shown in Figures 4, 6, and 9), said cap mates/pairs with said second end of said flexible wire by translating (as in a ratcheting system) along said flexible wire over a surface which restricts reverse translational movement (see Abstract). Cap 5 includes a flat surface, a center hole, and cutting/mating threads 20. Excess wire beyond the cap is removed (inherent in order to avoid exposing nearby/adjacent tissue to excess wire/cable, and clearly shown in Figures 3 and 4). A tool (e.g., driver) is capable of being attached to a portion of the head component. It should be noted that the adjective "flexible" is a broad term. Wire 9 comprises a long, thin shank/body, which will be subject to loads or forces. Said long, thin shank/body will inherently flex to some degree when exposed to said loads or forces.

Response to Arguments

6. With regards to the 102(b) rejection based on HEHL (WO 00/67652 A2), Applicant's arguments filed August 14, 2007 have been fully considered but they are not persuasive.

Art Unit: 3738

a. Regarding each of claim 11 and claim 17, the Applicant argues that Hehl does not disclose newly added limitation “*wherein said flexible wire is at least one of bendable without the use of tools and is able to be cut with a wire cutter*”. The Examiner respectfully disagrees. Bolt 9 is able (capable) to be cut with a wire cutter if one skilled in the art desires so. Further, there are different size wire cutters (depending on the gauge of the wire), some of which are able to cut on heavier gauge wires or bolts.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-22 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dakin et al. (US 6,368,326 B1; cited in Applicant's IDS) in view of Cachia (US 5,893,850 A; cited in Applicant's IDS).

Referring to Figures 1-5, Dakin et al. disclose a system including:

- (i) A head component (e.g., fastener 20) including a tip, cutting threads (20.4), and fastening threads (on the inside surface, or as part of the cutting threads on the outside surface);
- (ii) A flexible wire (cord 22) having a first end and a second end; and
- (iii) A cap (**first interpretation:** fastener 24, which has cutting threads 24.2, bore 24.3, and interior threads 24.4; **second interpretation:** locking device/screw 28, which has threads 28.1; **third interpretation:** fastener 24 + locking device/screw 28), said cap mates/pairs with said

Art Unit: 3738

second end of said flexible wire by translating along said flexible wire over a surface which restricts (e.g., by friction, or by crimping) reverse translational movement. Fastener 24 comprises a substantially flat end, a center hole 24.3, and additional openings 24.5, which additional openings are capable of expansion. Excess wire beyond the cap is removed (inherent in order to avoid exposing nearby/adjacent tissue to excess wire/cable, and clearly shown in Figures 13). A tool (e.g., driver) is capable of being attached to a portion of the head component (see entire document, particularly column 7, lines 8-14). A tensioner is used for applying tension to said wire (see, for example, Figure 1). A surgical plate is configured to mate with a surface of bone (see Figures).

The cap mates/pairs with the second end of the flexible wire. The excess length of the second end of the flexible wire will be removed (inherent in order to avoid exposing nearby/adjacent tissue to excess wire/cable, and clearly shown in Figures 13), but the cap will engage the remaining portion of the second end of the flexible wire. Notice in Figure 1 how a middle wire portion extends across an interface between a first bone portion 18 and a second bone portion 16. Notice in Figure 13 how a first end of the flexible wire is attached/mated/paired with the head component, and the second end of the flexible wire is attached/mated/paired with the cap.

Dakin et al. disclose the invention as claimed except for particularly disclosing the cap as comprising an inverse sawtooth configuration on an inner surface (e.g., bore) for translating along the flexible wire. However, this is already known in the art. For example, Cachia discloses a system comprising a cap/wire connection wherein the wire comprises a sawtooth configuration (retention structure 44) along at least a portion of said wire, and the cap comprises an inverse

Art Unit: 3738

sawtooth configuration (retention structure 42) on an inner surface of said cap (see column 4, lines 23-32 and lines 50-67), wherein the cap translates along said wire in order to provide resistance to movement of the cap in the proximal direction relative to the wire (see column 4, lines 23-32 and lines 50-67). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have combined the teaching of a system comprising a cap/wire connection wherein the wire comprises a sawtooth configuration along at least a portion of said wire, and the cap comprises an inverse sawtooth configuration on an inner surface of said cap, wherein the cap translates along said wire, as taught by Cachia, with the system of Dakin et al., in order to provide resistance to movement of the cap in the proximal direction relative to the wire.

Response to Arguments

9. With regards to the 103(a) rejection based on Dakin et al. (US 6,368,326 B1; cited in Applicant's IDS) in view of Cachia (US 5,893,850 A; cited in Applicant's IDS), Applicant's arguments filed August 14, 2007 have been fully considered but they are not persuasive.

a. In response to Applicants' piecemeal analysis of the references, it has been held that one cannot show nonobviousness by attacking references individually where, as here, the rejections are based on combinations of references. *In re Keller*, 208 USPQ 871 (CCPA 1981).

b. In response to Applicant's argument that there is no suggestion to combine the references, the Examiner recognizes that references cannot be arbitrarily combined and that there must be some reason why one skilled in the art would be motivated to make the proposed combination of primary and secondary references. *In re Nomiya*, 184 USPQ 607 (CCPA 1975). However, there

Art Unit: 3738

is no requirement that a motivation to make the modification be expressly articulated. The test for combining references is what the combination of disclosures taken as a whole would suggest to one of ordinary skill in the art. *In re McLaughlin*, 170 USPQ 209 (CCPA 1971).

c. Figure 3 clearly shows a cap/plug that is not rotated (i.e., it does not have outer screw threads) but translated along flexible wire 22, which cap/plug comprises an inner surface engaging flexible wire 22. When assembled, said inner surface restricts reverse translational movement. As seen in Figure 3, fastener 24, locking device/screw 28, and/or the above-indicated cap/plug can be broadly interpreted as the "cap". Cachia '850 teach the advantages of the interface between a sawtooth configuration along at least a portion of a wire/cord and an inverse sawtooth configuration on an inner surface of a cap/sleeve. Said teachings are applicable to either one of fastener 24, locking device/screw 28, and/or the cap/plug.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

Art Unit: 3738

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

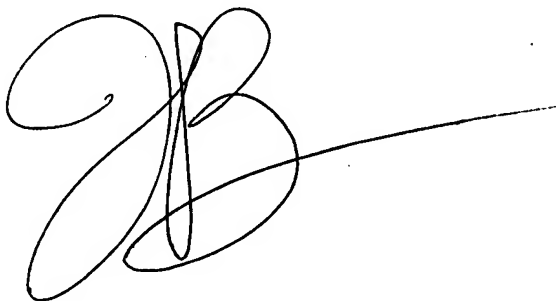

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Javier G. Blanco whose telephone number is 571-272-4747. The examiner can normally be reached on M-F (9:00 a.m.-7:00 p.m.), first Friday of the bi-week off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Corrine McDermott can be reached on (571) 272-4754. The fax phone numbers for the organization where this application or proceeding is assigned is 571-273-8300 for regular communications and After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0858.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Javier G. Blanco

October 17, 2007

A large, stylized handwritten signature in black ink, consisting of a large 'J' and 'B' intertwined, with a long horizontal line extending to the right.A handwritten signature in black ink, appearing to read 'D. Willse', written in a cursive style.

David H. Willse
Primary Examiner